



North American Refractories Co.

A Member of The Didier Group

RECEIVED
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AGCW - SEATTLE

500 Halle Building
1228 Euclid Avenue
Cleveland, Ohio 44115-1809
(216) 621-5200

NORTH AMERICAN REFRACTORIES PRODUCT SAFETY DATA SHEET

MANUFACTURER

NORTH AMERICAN REFRACTORIES

MSDS # 1016-00

Vendor:

Emergency Phone Number
East (814) 236-3890
West (415) 432-4741
Canada (416) 765-4404

MSDS prepared by:
NORTH AMERICAN REFRACTORIES
Technical Center (814) 234-7981

Date Issued: 03/26/93 Date Revised: 11/25/91
Product Type: Refractory Brick Shape - Alumina Silica
Trade Name: NARCAL 70D
Product SARA Hazard Class: (2) Delayed or Chronic
WHMIS Hazard Class (CANADA): Class D - Division 2: Toxic Material (CPR 60)

***** SECTION I - PRODUCT IDENTIFICATION *****

Chemical Name: High Alumina Brick
Chemical Family: Al_2O_3 , SiO_2

***** SECTION II - CHEMICAL COMPOSITION *****

Hazardous Ingredients:	CAS Number:	PCT:
Crystalline Silica including: N/A		1.0 - 5.0%
Quartz	14808-60-7	
Cristobalite	14464-46-1	
Tridymite	15468-32-3	
Other Ingredients:	CAS Number:	PCT:
Alumina Silicate	1302-93-8	60.0 - 100.0%

***** SECTION III - PHYSICAL DATA *****

Appearance and Odor: Tan brick shapes, odorless
Odor threshold (p.p.m.): Not applicable.
Specific Gravity: Not available.
Vapor Pressure (mm): Not applicable.
Vapor Density (air=1): Not applicable.
Boiling Point (3F): Greater than 1000 Deg.F.



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Solubility in Water: Not available.
% Volatile (by weight): Not applicable.
pH: Not applicable.
Density: 2 to 3 gm/cc.
Coefficient of Water/Oil Distribution: Not available.

***** SECTION IV - FIRE AND EXPLOSION HAZARD *****

Flammability: This product is non-flammable and will not support combustion.

***** SECTION V - HEALTH HAZARD *****

Threshold Limit Value:

For respirable dust containing crystalline silica:

OSHA :
ACGIH: Quartz.....0.1mg/m³
Cristobalite....0.05mg/m³
Tridymite.....0.05mg/m³

Effects of Overexposure:

CRYSTALLINE SILICA:
Chronic overexposure to dust containing respirable sized crystalline silica (quartz, cristobalite, and tridymite) can cause delayed lung injury (silicosis).

Points of attack: Respiratory system and lungs.

Route of entry: Inhalation.

Inhalation of dust containing crystalline silica may contribute to pre-existing pulmonary diseases such as asthma and lung disorders associated with the smoking of tobacco.

Some recent animal studies have caused the International Agency for Research on Cancer (IARC) to categorize crystalline silica as a 2A carcinogen. A 2A carcinogen is one which:

- (1) there is sufficient evidence for the carcinogenicity to experimental animals.
- (2) there is limited evidence of the carcinogenicity to humans.

Crystalline silica has been listed in the most recent NTP Report on Carcinogens.

For more information on crystalline silica refer to:

- (1) IARC Monograph, Volume 42
- (2) NIOSH Document No. 75-120
- (3) NTP Report on Carcinogens

Toxicity data:

Quartz: LCLo: 300ug/m³ / 10Y-I



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Cristobalite: inhalation human
TCLo: 16 mppcf/8H/17.9Y-I
Tridymite: inhalation human
TCLo: 16 mppcf/8H/17.9Y-I
Note: LD50 and LC50 not available.

CARCINOGENICITY INFORMATION

With the exception of:

Crystalline silica

No ingredient in this product is found on either the Federal OSHA, NTP, or IARC list of carcinogens.

Emergency and First Aid Data:

Inhalation: Remove to fresh air.

SECTION VI - REACTIVITY DATA

Stability and Reactivity: This product is stable and non-reactive.

Hazardous Decomposition: Crystalline silica levels in used refractories may be higher or lower than as-shipped depending on service conditions. Hygiene monitoring must be done to insure the proper employee protection during tearout.

SECTION VII - SPILL AND LEAK PROCEDURES

Waste Disposal Method: Dispose of material according to local, state or federal regulations and as final used condition of the product dictates.

SECTION VIII - INDUSTRIAL HYGIENE INFORMATION *****

Ventilation: Local exhaust recommended to maintain exposures below TLV.

Respiratory Protection: NIOSH approved dust type for exposures above TLV.

SECTION IX - SPECIAL PRECAUTIONS

Special Precautions: Avoid dust generation.

Precautionary Labeling: Product contains crystalline silica
WARNING: Prolonged/repeated inhalation of product dust may cause delayed lung injury (silicosis)



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Technical Center (814) 234-7981

Date Issued: 03/26/93
Trade Name:

Date Revised: 09/12/85

***** SECTION I - PRODUCT IDENTIFICATION *****

Chemical Name: MISCELLANEOUS
Chemical Family: MISCELLANEOUS

***** SECTION II - CHEMICAL COMPOSITION *****